

CLAIMS

What is claimed is:

- 1 1. A fault tolerant data storage system comprising:
2 a plurality of coupled components individually including:
3 an interface adapted to couple with a data connection and to
4 selectively receive a plurality of transactions from the data connection;
5 transaction processing circuitry coupled with the interface and
6 configured to process transactions received from the interface; and
7 analysis circuitry configured to detect error conditions within
8 the transactions and to prevent entry of transactions individually including an
9 error condition into the respective component responsive to the detection.
- 1 2. The system in accordance with claim 1 wherein the analysis
2 circuitry is configured to disable the interface responsive to the detection of the
3 error condition.
- 1 3. The system in accordance with claim 1 wherein the analysis
2 circuitry comprises logic circuitry configured to set an enable signal to control
3 the reception of transactions within the interface.
- 1 4. The system in accordance with claim 1 wherein the analysis
2 circuitry is configured to control passage of the transactions to the interface
3 responsive to the detection of the error conditions.
- 1 5. The system in accordance with claim 1 wherein the analysis
2 circuitry is configured to determine the type of error conditions and permit
3 selective entry of corresponding transactions responsive to the determination.

1 6. The system in accordance with claim 1 wherein the interface is
2 adapted to couple with the data connection coupled with an interface of another
3 component.

1 7. The system in accordance with claim 1 wherein the analysis
2 circuitry is configured to communicate the detection of the error conditions.

1 8. The system in accordance with claim 1 wherein the analysis
2 circuitry of one component is configured to communicate the detection of the
3 error conditions to other components.

1 9. A method of operating a fault tolerant data storage system
2 comprising:
3 providing a fault tolerant data storage system including a plurality of
4 components configured to process transactions;
5 providing the transactions for communication to respective
6 components;
7 detecting error conditions within the transactions; and
8 preventing entry of transactions which individually include an error
9 condition into respective components responsive to the detecting.

1 10. The method in accordance with claim 9 wherein the preventing
2 entry comprises disabling interfaces of the respective components.

1 11. The method in accordance with claim 9 wherein the preventing
2 entry comprises selectively preventing entry of transactions which individually
3 include an error condition into the respective components.

1 12. The method in accordance with claim 9 further comprising
2 determining the types of error conditions and wherein the preventing entry

3 comprises selectively preventing entry of transactions responsive to the
4 determining.

1 13. The method in accordance with claim 9 further comprising
2 communicating the detecting of the error conditions.

1 14. A method of operating a fault tolerant data storage system
2 comprising:
3 providing a fault tolerant data storage system including a plurality of
4 coupled components configured to process transactions;
5 communicating transactions intermediate coupled components;
6 detecting an error condition within one of the transactions; and
7 isolating the component which outputted the transaction including the
8 error condition responsive to the detecting.

1 15. The method in accordance with claim 14 wherein the
2 communicating comprises communicating using interfaces of the components.

1 16. The method in accordance with claim 15 wherein the isolating
2 comprises disabling the interfaces of the components coupled with the
3 component which communicated the transaction including the error condition.

1 17. The method in accordance with claim 14 further comprising
2 communicating the detection of the error condition.

1 18. The method in accordance with claim 14 further comprising
2 determining the type of the error condition and wherein the isolating comprises
3 selectively isolating responsive to the determining.

1 19. The method in accordance with claim 14 wherein the providing
2 comprises providing a RAID fault tolerant data storage system.

- 1 20. The method in accordance with claim 14 further comprising
2 processing transactions using the components after the isolating.